

PARTS LIST

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|---------|--------------------------------|
| SM | Stationary mast assembly |
| RM | Rotatable mast assembly |
| M | Mixer |
| T | Tank |
| F | Tank floor |
| 10 | Upper mast member of SM |
| 11 | Lower mast member of SM |
| 14 & 16 | Supports |
| 20 | Upper mast member of RM |
| 22 | Lower mast member of RM |
| 24 | Pipe |
| 25 | Base of upper mast member 20 |
| 26 | Block |
| 28 | Bottom of base 25 |
| 30 | L-shaped track |
| 32 & 34 | Sides of block 26 |
| 36 | Vertical section of track 30 |
| 38 | Horizontal section of track 30 |
| 39 | Support plate |
| 40 | Bearings |
| 41 | Support plate |
| 42 | Hoist mechanism |
| 44 | Power line |
| 46 | Foot |
| 48 | Bottom of lower mast member 22 |
| 50 | Base |
| 52 | Load bearing assembly |
| 54 | Pin |
| 56 | Thrust bearing |
| 58 | Bushing |
| 60 | Spacer |
| 62 | Pivot ball |
| 64 | Retainer plate |

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WHAT IS CLAIMED IS:

1. A self-anchoring mast that deploys a high-speed submersible mixer in a tank, comprising:
 - a) a first mast member;
 - b) a second mast member operably connected to said first mast member; and
 - c) a foot member operably connected to said second mast member to support said self-anchoring mast in a tank.
2. The mast of Claim 1, wherein:
said second mast member comprises attachment means to connect a mixer thereto.
3. The mast of Claim 2, wherein:
said attachment means comprises first and second tracks to slidably receive a bearing of the mixer.
4. The mast of Claim 3, wherein:
said first and second tracks are aligned at approximately a right angle.
5. The mast of Claim 3, wherein:
said first track extends in a first direction that is the same as the axial direction of said first mast member; and
said second track extends in a second direction at approximately a right angle to said first direction.

6. The mast of Claim 5, wherein:

said foot member includes a support base and a bearing assembly;

said bearing assembly is fixedly attached to said second mast member; and

wherein said second mast member is rotatable relative to said support base.

7. A self-anchoring mast that deploys a high-speed submersible mixer in a tank, comprising:

a) an upper mast member;

b) a lower mast member operably connected to said upper mast member;

c) a foot member operably connected to said lower mast member to support said self-anchoring mast in a tank;

d) said lower mast member including attachment means to connect a mixer thereto; and

e) said attachment means comprising first and second tracks that slidably receive a bearing of the mixer.

8. The mast of Claim 7, wherein:

said first track extends axially in the same direction as said upper mast member.

9. The mast of Claim 8, wherein:
said second track extends at approximately a right angle to said upper mast member.
10. The mast of Claim 9, wherein:
said foot member includes a support base and a bearing assembly;
said bearing assembly is fixedly attached to said lower mast member; and
wherein said lower mast member is rotatable relative to said support base.
11. The method of deploying a high-speed submersible mixer in a tank, comprising the steps of:
- a) providing a self-anchoring mast, comprising;
 - i) a first mast member;
 - ii) a second mast member operably connected to said first mast member; and
 - iii) a foot member operably connected to said second mast member for supporting the mast in a tank;

- b) connecting a mixer to the second mast member such that the mixer extends in the same direction as the second mast member;
- c) lowering the mast with the mixer in a tank; and
- d) rotating the mixer relative to the second mast member such that the mixer extends generally transversely thereto.

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12. The method of Claim 11, further comprising the step of:

- e) further lowering the mast in the tank until the foot member comes to rest on the bottom of the tank.